

## Refine Search

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### Search Results -

Term	Documents
GRIND	105387
GRINDS	8834
GROUND	1548366
GROUNDS	42194
CRUSHED	169001
CRUSHEDS	1
PULVERIZED	88639
PULVERISED	17000
(8 AND (GRIND OR PULVERIZED OR CRUSHED OR GROUND)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	73
(L8 AND (GRIND OR GROUND OR CRUSHED OR PULVERIZED )).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	73

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**Database:**

US Pre-Grant Publication Full-Text Database  
 US Patents Full-Text Database  
 US OCR Full-Text Database  
 EPO Abstracts Database  
 JPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

**Search:**

L9			Refine Search
<input style="width: 100%; height: 100%; border: none; background-color: transparent; font-size: small;" type="button" value="Recall Text"/>		<input style="width: 100%; height: 100%; border: none; background-color: transparent; font-size: small;" type="button" value="Clear"/>	<input style="width: 100%; height: 100%; border: none; background-color: transparent; font-size: small;" type="button" value="Interrupt"/>

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### Search History

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**DATE:** Sunday, May 27, 2007    [Purge Queries](#)    [Printable Copy](#)    [Create Case](#)

<u>Set</u> <u>Name</u>	<u>Query</u>	<u>Hit</u> <u>Count</u>
side by side	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=AND	Name result set

<u>L9</u>	L8 and (grind or ground or crushed or pulverized)	73	<u>L9</u>
<u>L8</u>	L7 and (entrapped or encapsulated or doped or immobilized or immobilizing)	168	<u>L8</u>
<u>L7</u>	L6 same (micron)	443	<u>L7</u>
<u>L6</u>	(sol-gel) same (particle or microparticle or mirosphere)	5636	<u>L6</u>
<u>L5</u>	(microfluidic) same (sol-gel)	46	<u>L5</u>
<u>L4</u>	Wade-Terry.in.	0	<u>L4</u>
<u>L3</u>	Spence-Dana-M\$.in.2	0	<u>L3</u>
<u>L2</u>	L1 and sol-gel	0	<u>L2</u>
<u>L1</u>	Kostic-N\$-M\$.in.	7	<u>L1</u>

END OF SEARCH HISTORY

**Welcome to DialogClassic Web(tm)**

Dialog level 05.17.01D  
Last logoff: 24may07 15:03:30  
Logon file1 27may07 13:07:20

\*\*\* ANNOUNCEMENTS \*\*\*  
\*\*\*

## NEW FILES RELEASED

\*\*\*BIOSIS Previews Archive (File 552)  
\*\*\*BIOSIS Previews 1969-2007 (File 525)  
\*\*\*Engineering Index Backfile (File 988)  
\*\*\*Trademarkscan - South Korea (File 655)

## RESUMED UPDATING

\*\*\*File 141, Reader's Guide Abstracts  
\*\*\*

## RELOADS COMPLETED

\*\*\*Files 154 & 155, MEDLINE  
\*\*\*File 5, BIOSIS Previews - archival data added  
\*\*\*Files 340, 341 & 942, CLAIMS/U.S. Patents - 2006 reload now online  
\*\*\*

## DATABASES REMOVED

Chemical Structure Searching now available in Prous Science Drug Data Report (F452), Prous Science Drugs of the Future (F453), IMS R&D Focus (F445/955), Pharmaprojects (F128/928), Beilstein Facts (F390), Derwent Chemistry Resource (F355) and Index Chemicus (File 302).  
\*\*\*

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\* \* \*

File 1:ERIC 1965-2007/Apr  
(c) format only 2007 Dialog

Set	Items	Description
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Cost is in DialUnits  
?

B 155, 5, 73, 159  
27may07 13:07:38 User259876 Session D1009.1  
\$0.95 0.270 DialUnits File1  
\$0.95 Estimated cost File1  
\$0.06 INTERNET  
\$1.01 Estimated cost this search  
\$1.01 Estimated total session cost 0.270 DialUnits

SYSTEM:OS - DIALOG OneSearch  
File 155: MEDLINE(R) 1950-2007/May 25  
(c) format only 2007 Dialog  
\*File 155: Medline has been reloaded. Please see HELP NEWS 154  
for information on 2007 changes.  
File 5:Biosis Previews(R) 1926-2007/May W3  
(c) 2007 The Thomson Corporation  
\*File 5: BIOSIS has been enhanced with archival data. Please see  
HELP NEWS 5 for information.

File 73:EMBASE 1974-2007/May 18  
(c) 2007 Elsevier B.V.  
File 159:Cancerlit 1975-2002/Oct  
(c) format only 2002 Dialog  
**\*File 159: Cancerlit is no longer updating.**  
Please see HELP NEWS159.

Set Items Description

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?

S (SOL-GEL) OR (SOL (W) GEL)  
49 SOL-GEL  
15898 SOL  
791755 GEL  
5230 SOL(W)GEL  
S1 5230 (SOL-GEL) OR (SOL (W) GEL)

?

S S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED OR IMMOBILIZING)  
5230 S1  
17983 ENTRAPPED  
41254 ENCAPSULATED  
7136 DOPED  
109873 IMMOBILIZED  
6746 IMMOBILIZING  
S2 1333 S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED  
OR IMMOBILIZING)

?

S S2 (S) (DIAMETER AND MICRONS)  
1333 S2  
398862 DIAMETER  
30282 MICRONS  
S3 2 S2 (S) (DIAMETER AND MICRONS)

?

RD  
S4 2 RD (unique items)

?

T S4/3,K/ALL

**4/3,K/1 (Item 1 from file: 155)**  
DIALOG(R)File 155:MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

13899555 PMID: 12194520

In vitro and in vivo evaluation of alginate/sol-gel synthesized  
aminopropyl-silicate/alginate membrane for bioartificial pancreas.

Sakai Shinji; Ono Tsutomu; Iijima Hiroyuki; Kawakami Koei  
Department of Materials Process Engineering, Graduate School of  
Engineering, Kyushu University, 6-10-1 Hakozaki, Higashi-ku, Fukuoka  
812-8581, Japan. sakai@chem-eng.kyushu-u.ac.jp

Biomaterials (England) Nov 2002, 23 (21) p4177-83, ISSN 0142-9612--  
Print Journal Code: 8100316

Publishing Model Print

Document type: Evaluation Studies; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... carboxyl groups of alginate. Permeability and stability were investigated for the membrane. Furthermore, rat islets encapsulated in the membrane (499 +/- 32 microns in diameter, 1000 islets/recipient) were transplanted to the peritoneal cavities of the mice with streptozotocin-induced...

4/3,K/2 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2007 The Thomson Corporation. All rts. reserv.

16107406 BIOSIS NO.: 200100279245

**Sunscreens for protection from sun radiation**

AUTHOR: Avnir David (Reprint); Cohen Levy David

AUTHOR ADDRESS: Jerusalem, Israel\*\*Israel

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1241 (2): Dec. 12, 2000 2000

MEDIUM: e-file

PATENT NUMBER: US 6159453 PATENT DATE GRANTED: December 12, 2000 20001212

PATENT CLASSIFICATION: 424-59 PATENT ASSIGNEE: Yissum Research Development Company of the Hebrew University of Jerusalem, Jerusalem, Israel

PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

...ABSTRACT: present invention. The sol-gel matrices may be particles in any shape, 0.01-100 microns in diameter, or they may be thin films, thin coatings or in the form of a monolith. The present invention also relates to a method for the preparation of sunscreen- doped sol - gel materials comprising condensation-polymerizing of at least one monomer selected from metal alkoxides, semi metal...

...least one sunscreen ingredient, resulting in the entrapment of the sunscreen ingredients within the formed sol - gel matrix.

?

Set	Items	Description
S1	5230	(SOL-GEL) OR (SOL (W) GEL)
S2	1333	S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S3	2	S2 (S) (DIAMETER AND MICRONS)
S4	2	RD (unique items)
	?	

S S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR MICROARRAY OR MICROCHANN  
1333 S2  
6058 MICROFLUIDIC  
1830 MICROANALYTICAL  
382 MICRODEVICE  
78085 MICROARRAY  
2089 MICROCHANNEL  
1822 MICROCOLUMN  
S5 30 S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)

?

RD

S6 17 RD (unique items)

?

Set	Items	Description
S1	5230	(SOL-GEL) OR (SOL (W) GEL)
S2	1333	S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S3	2	S2 (S) (DIAMETER AND MICRONS)
S4	2	RD (unique items)
S5	30	S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR - MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)
S6	17	RD (unique items)

?

T S6/3,K/ALL

6/3,K/1 (Item 1 from file: 155)  
DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

23451911 PMID: 16351150

**Nanovolume kinase inhibition assay using a sol-gel-derived multicomponent microarray.**

Rupcich Nicholas; Green James R A; Brennan John D  
Department of Chemistry, McMaster University, Hamilton, Ontario, Canada  
L8S 4M1.

Analytical chemistry (United States) Dec 15 2005, 77 (24) p8013-9,  
ISSN 0003-2700--Print Journal Code: 0370536

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

**Nanovolume kinase inhibition assay using a sol-gel-derived multicomponent microarray .**

... the coimmobilization of both kinase and substrate components within a single pin-printed sol-gel microarray element and the use of such arrays for nanovolume inhibition assays. We successfully immobilized the alpha-catalytic subunit of cAMP-dependent protein kinase (PKA) and the peptide substrate kemptide within sol - gel -derived microarrays for the purpose of monitoring phosphorylation and inhibition. Using Pro-Q Diamond stain...

Descriptors: \*Cyclic AMP-Dependent Protein Kinases--metabolism--ME; \* Microarray Analysis--methods--MT; \*Phosphotransferases--antagonists and inhibitors--AI

6/3,K/2 (Item 2 from file: 155)  
DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

23385178 PMID: 16572216

**Zeolite nanoparticle modified microchip reactor for efficient protein digestion.**

Huang Yi; Shan Wei; Liu Baohong; Liu Yun; Zhang Yahong; Zhao Yue; Lu Haojie; Tang Yi; Yang Pengyuan

Department of Chemistry, Fudan University, Shanghai 200433, People's Republic of China.

Lab on a chip (England) Apr 2006, 6 (4) p534-9, ISSN 1473-0197--  
Print Journal Code: 101128948

Publishing Model Print-Electronic

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... surface-modified with zeolite nanoparticles. By introducing the silanol functional groups, the surface of PMMA microchannel has been successfully modified with silicalite-1 nanoparticle for the first time due to its...

... external surface area and high dispersibility in solutions. Trypsin can be stably immobilized in the microchannel to form a bioreactor using silica sol - gel matrix. The immobilization of enzyme can be realized with a stable gel network through a...

... microchip capillary electrophoresis with laser-induced fluorescence detection. The maximum proteolytic rate constant of the immobilized trypsin is measured to be about 6.6 mM s(-1). Using matrix assisted laser

...

**6/3,K/3 (Item 3 from file: 155)**

DIALOG(R)File 155: MEDLINE(R)

(c) format only 2007 Dialog. All rts. reserv.

22205300 PMID: 16524098

**Speciation of chromium by selective separation and preconcentration of Cr(III) on an immobilized nanometer titanium dioxide microcolumn.**

Liang Pei; Ding Qiong; Liu Yan

College of Chemistry, Central China Normal University, Wuhan 430079, P.R. China. liangpei@mail.ccnu.edu.cn

Journal of separation science (Germany) Feb 2006, 29 (2) p242-7,  
ISSN 1615-9306--Print Journal Code: 101088554

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: In Process

**...chromium by selective separation and preconcentration of Cr(III) on an immobilized nanometer titanium dioxide microcolumn .**

... titanium dioxide immobilized on silica gel (immobilized nanometer-scale TiO<sub>2</sub> particles) was prepared by a sol - gel method and characterized by X-ray diffraction and scanning electron microscopy. The adsorptive behavior of Cr(III) and Cr(VI) on immobilized nanometer TiO<sub>2</sub> was assessed. Cr(III) was selectively sorbed on immobilized nanometer TiO<sub>2</sub> in the pH range of 7-9, while Cr(VI) was found to...

... selective method has been developed for the speciation of chromium in water samples using an immobilized nanometer TiO<sub>2</sub> microcolumn and inductively coupled plasma atomic emission spectrometry. Under optimized conditions (pH 7.0, flow rate...

... the reduction of Cr(VI) to Cr(III) by ascorbic acid. The adsorption capacity of immobilized nanometer TiO<sub>2</sub> for Cr(III) was found to be 7.04

mg/g. The detection...

**6/3,K/4 (Item 4 from file: 155)**

DIALOG(R)File 155:MEDLINE(R)

(c) format only 2007 Dialog. All rts. reserv.

15841271 PMID: 16335962

**Strategy for allosteric analysis based on protein-patterned stationary phase in microfluidic chip.**

Bi Hongyan; Weng Xuexiang; Qu Haiyun; Kong Jilie; Yang Pengyuan; Liu Baohong

Department of Chemistry, Research Center for Proteome, Fudan University, Shanghai 200433, People's Republic of China.

Journal of proteome research (United States) Nov-Dec 2005, 4 (6)

p2154-60, ISSN 1535-3893--Print Journal Code: 101128775

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

**Strategy for allosteric analysis based on protein-patterned stationary phase in microfluidic chip.**

... depression of nonspecific adsorption. The alumina gel-derived protein network on poly(methyl methacrylate) (PMMA) microchannel was explored to form a protein-stationary phase and then used to carry out electrophoresis

... one, respectively. Bovine serum albumin, acting as a target protein, could be stably and homogeneously immobilized in the modified PMMA microchannel to fabricate a protein-stationary phase. Under a mild condition, D- and L-tryptophan were...

**6/3,K/5 (Item 5 from file: 155)**

DIALOG(R)File 155:MEDLINE(R)

(c) format only 2007 Dialog. All rts. reserv.

15383676 PMID: 15696172

**Photo-induced proton gradients and ATP biosynthesis produced by vesicles encapsulated in a silica matrix.**

Luo Tzy-Jiun M; Soong Ricky; Lan Esther; Dunn Bruce; Montemagno Carlo  
Department of Materials Science and Engineering, University of California, Los Angeles, California 90095, USA.

Nature materials (England) Mar 2005, 4 (3) p220-4, ISSN 1476-1122--  
Print Journal Code: 101155473

Publishing Model Print-Electronic; Comment in Nat Mater. 2005  
Mar;4(3) 189-90; Comment in PMID 15738941

Document type: Journal Article; Research Support, U.S. Gov't, Non-P.H.S.

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... proteins has received much less attention, although work in this area suggests potential opportunities in microarray technology and high-throughput drug screening. The present paper describes a liposome/sol-gel architecture...

... compromising the intrinsic activity of the incorporated proteins. Here we report on two different proteoliposome-doped gels (proteogels) whose

properties are determined by the transmembrane proteins. Proteogels containing bR proteoliposomes exhibit...

... gradient to the production of ATP. These results demonstrate that materials based on the liposome/ sol - gel architecture are able to harness the properties of transmembrane proteins and enable a variety of...

**6/3,K/6 (Item 6 from file: 155)**

DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

14995367 PMID: 15253661

**Entrapment of Src protein tyrosine kinase in sugar-modified silica.**

Cruz-Aguado Jorge A; Chen Yang; Zhang Zheng; Brook Michael A; Brennan John D

Department of Chemistry, McMaster University, Hamilton, Ontario L8S 4M1, Canada.

Analytical chemistry (United States) Jul 15 2004, 76 (14) p4182-8,  
ISSN 0003-2700--Print Journal Code: 0370536

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

...detect the phosphorylation of peptides with molecular weights of up to 2300 Da using the entrapped enzyme in N-(3-triethoxysilylpropyl)gluconamide (GLTES) doped glasses. Src kinase- doped glasses, derived from precursors such as tetramethyl orthosilicate, tetraethyl orthosilicate, or DGS that did not...

... PTK activity and inhibition is demonstrated, setting the stage for the development of chromatographic and microarray based methods for the screening of kinase inhibitors.

**6/3,K/7 (Item 7 from file: 155)**

DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

14283259 PMID: 12713046

**Microchip-based purification of DNA from biological samples.**

Breadmore Michael C; Wolfe Kelley A; Arcibal Imee G; Leung Wayne K; Dickson Dana; Giordano Braden C; Power Mary E; Ferrance Jerome P; Feldman Sanford H; Norris Pamela M; Landers James P

Department of Chemistry, University of Virginia, Charlottesville, Virginia 22904, USA.

Analytical chemistry (United States) Apr 15 2003, 75 (8) p1880-6,  
ISSN 0003-2700--Print Journal Code: 0370536

Contract/Grant No.: R21 CA78865-01; CA; NCI; R24 ES10229-01; ES; NIEHS

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, P.H.S.

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

...blood, is demonstrated. Silica beads were packed into glass microchips and the beads immobilized with sol - gel to provide a stable and

reproducible solid phase onto which DNA could be adsorbed. Optimization...  
... strain of *Bacillus anthracis*, where eventual integration of SPE, PCR,  
and separation on a single microdevice could potentially enable complete  
detection of the infectious agent in less than 30 min.

6/3,K/8 (Item 8 from file: 155)  
DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

14247927 PMID: 12669868

**Simple method for preparation of nanostructure on microchannel surface  
and its usage for enzyme-immobilization.**

Miyazaki Masaya; Kaneno Jun; Uehara Masato; Fujii Masayuki; Shimizu Hazime; Maeda Hideaki

Micro-space Chemistry Laboratory, National Institute of Advanced Industrial Science and Technology, 807-1 Shuku, Tosa, 841-0052 Saga, Japan.

Chemical communications (Cambridge, England) (England) Mar 7 2003,

(5) p648-9, ISSN 1359-7345--Print Journal Code: 9610838

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

**Simple method for preparation of nanostructure on microchannel surface  
and its usage for enzyme-immobilization.**

We developed a novel preparation method of nanostructure on the microchannel surface formed by sol-gel like simple treatment with 3-aminopropyltriethoxysilane, which is suitable for a highly efficient enzyme-immobilized microchannel reactor.

6/3,K/9 (Item 9 from file: 155)  
DIALOG(R)File 155: MEDLINE(R)  
(c) format only 2007 Dialog. All rts. reserv.

13196816 PMID: 11320503

**Stable sol-gel microstructured and microfluidic networks for protein patterning.**

Kim Y D; Park C B; Clark D S

Department of Chemical Engineering, University of California, 110-C Gilman Hall, Berkeley, CA 94720, USA.

Biotechnology and bioengineering (United States) Jun 5 2001, 73 (5) p331-7, ISSN 0006-3592--Print Journal Code: 7502021

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

**Stable sol-gel microstructured and microfluidic networks for protein patterning.**

... Retention of biochemical activity within the micropatterned gel was demonstrated by performing immunobinding assays with immobilized immunoglobulin G (IgG) antibody. The potential application of microfluidics technology to immobilized -enzyme biocatalysis was demonstrated using PDMS-patterned microchannels filled with trypsin-containing sol-gels. This work provides a foundation for the microfabrication of functional protein chips using sol-gel processes. Copyright 2001 John Wiley & Sons, Inc.

6/3,K/10 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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19198815 BIOSIS NO.: 200600544210  
**Lab-on-a-chip for monitoring the quality of raw milk**  
AUTHOR: Choi Jeong-Woo (Reprint); Kim Young-Kee; Kim Hee-Joo; Lee Woochang;  
Seong Gi Hun  
AUTHOR ADDRESS: Sogang Univ, Dept Chem and Biomol Engn, Seoul 121742, South  
Korea\*\*South Korea  
AUTHOR E-MAIL ADDRESS: jwchoi@sogang.ac.kr  
JOURNAL: Journal of Microbiology and Biotechnology 16 (8): p1229-1235 AUG  
2006 2006  
ISSN: 1017-7825\_(print) 1738-8872\_(electronic)  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

...ABSTRACT: PDMS) using microelectromechanical system (MEMS) technology, which consisted of two parts; a protein array and microchannel . The protein array was fabricated by immobilizing five types of antibodies corresponding to two microorganisms, two antibiotic residues, and somatic cells. A sol - gel film was deposited on a glass substrate to immobilize the antibodies. The target analytes in...  
...detected using fluorescence microscopy. SNARE-dextran was used as a pH indicator, and the SNARE- entrapped hydrogel was attached to the microchannel in the chip. After injecting the milk sample into the channel, the pH was measured...

6/3,K/11 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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18615581 BIOSIS NO.: 200510310081  
**Nanometer titanium dioxide immobilized on silica gel as sorbent for preconcentration of metal ions prior to their determination by inductively coupled plasma atomic emission spectrometry**  
AUTHOR: Liu Yan; Liang Pei (Reprint); Guo Li  
AUTHOR ADDRESS: Cent China Normal Univ, Coll Chem, Wuhan 430079, Peoples R  
China\*\*Peoples R China  
AUTHOR E-MAIL ADDRESS: liangpei@mail.ccnu.edu.cn  
JOURNAL: Talanta 68 (1): p25-30 NOV 15 2005 2005  
ISSN: 0039-9140  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Nanometer titanium dioxide immobilized on silica gel (immobilized nanometer TiO<sub>2</sub>) was prepared by sol - gel method and characterized by using X-ray diffraction (XRD) and scanning electron microscope (SEM). The adsorptive potential of immobilized nanometer TiO<sub>2</sub> for the preconcentration of trace Cd, Cr, Cu and Mn was assessed in...

...0.5 mol L<sup>-1</sup> HNO<sub>3</sub> was sufficient for complete elution. The adsorption capacity of immobilized nanometer TiO<sub>2</sub> for Cd, Cr, Cu and Mn was found to be 2.93, 2.11, 6.69 and 2.47 mg g<sup>(-1)</sup>, respectively. A new method using a microcolumn packed with immobilized nanometer TiO<sub>2</sub> as sorbent

has been developed for the preconcentration of trace amounts of Cd...

6/3,K/12 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2007 The Thomson Corporation. All rts. reserv.

17741021 BIOSIS NO.: 200400110727  
**Coupled enzyme reaction microarrays based on pin-printing of sol-gel derived biomaterials.**  
AUTHOR: Rupcich Nicholas; Brennan John D (Reprint)  
AUTHOR ADDRESS: Department of Chemistry, McMaster University, Hamilton, ON, L8S 4M1, Canada\*\*Canada  
AUTHOR E-MAIL ADDRESS: brennanj@mcmaster.ca  
JOURNAL: Analytica Chimica Acta 500 (1-2): p3-12 19 December, 2003 2003  
MEDIUM: print  
ISSN: 0003-2670 (ISSN print)  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

...ABSTRACT: reagentless" fluorimetric detection of glucose. The second system involved the detection of urea using co- immobilized urease and fluorescein dextran, which works on the basis of a pH induced change in ...

...multianalyte biosensing. Inhibition of urease by the competitive inhibitor thiourea is also demonstrated on a microarray , demonstrating that sol - gel -based microarrays may find use in high-throughput drug-screening applications.

DESCRIPTORS:  
METHODS & EQUIPMENT: coupled enzyme reaction microarray --

6/3,K/13 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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17691197 BIOSIS NO.: 200400061954  
**Elimination of calcium and argon interferences in iron determination by ICP-MS using desferrioxamine chelating agent immobilized in sol-gel and cold plasma conditions.**  
AUTHOR: Segura Marta (Reprint); Madrid Yolanda (Reprint); Camara Carmen (Reprint)  
AUTHOR ADDRESS: Departamento Quimica Analitica, Facultad de Ciencias Quimicas, Universidad Complutense, 28040, Madrid, Spain\*\*Spain  
AUTHOR E-MAIL ADDRESS: ccamara@quim.ucm.es  
JOURNAL: Journal of Analytical Atomic Spectrometry 18 (9): p1103-1108 September 2003 2003  
MEDIUM: print  
ISSN: 0267-9477  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

...and argon interferences in iron determination by ICP-MS using desferrioxamine chelating agent immobilized in sol - gel and cold plasma conditions.  
...ABSTRACT: of individuals suffering from acute iron toxicity (usually infant poisoning or chronic iron overload). A microcolumn (5.0 cm

length and 3.0 mm of internal diameter) filled with the Desferal immobilized in sol - gel has been used online with an ICP-MS detector (Hewlett Packard 4500-plus). The parameters...

...200 µL of 1 mol L<sup>-1</sup> HNO<sub>3</sub> as eluent. The lifetime of the Desferal sol - gel was at least one month, which was equivalent to about 250 iron determinations. The system...

**DESCRIPTORS:**

**CHEMICALS & BIOCHEMICALS:** ...chelating agent, cold plasma immobilized, sol - gel immobilized

**6/3,K/14 (Item 5 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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15473746 BIOSIS NO.: 200000192059

**Continuous microfluidic delivery of glucose to sol-gel-immobilized glucose oxidase**

AUTHOR: Spence Dana M (Reprint); Bownik Joanna (Reprint); Graetz Thomas J (Reprint); Wade Terry (Reprint)

AUTHOR ADDRESS: Department of Chemistry, Saint Louis University, 3501 LaClede, Saint Louis, MO, 63103, USA\*\*USA

JOURNAL: Abstracts of Papers American Chemical Society 219 (1-2): pANYL 27 2000 2000

MEDIUM: print

CONFERENCE/MEETING: 219th Meeting of the American Chemical Society. San Francisco, California, USA March 26-30, 2000; 20000326

SPONSOR: American Chemical Society

ISSN: 0065-7727

DOCUMENT TYPE: Meeting; Meeting Abstract

RECORD TYPE: Citation

LANGUAGE: English

**Continuous microfluidic delivery of glucose to sol-gel- immobilized glucose oxidase**

**DESCRIPTORS:**

**CHEMICALS & BIOCHEMICALS:** ...continuous microfluidic delivery, enzyme-catalyzed determination...

...sol-gel immobilized

**6/3,K/15 (Item 1 from file: 73)**

DIALOG(R)File 73:EMBASE

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14338917 EMBASE No: 2007103275

**DNA-DNA interaction on dendron-functionalized sol-gel silica films followed with surface plasmon fluorescence spectroscopy**

Kwon S.H.; Hong B.J.; Park H.Y.; Knoll W.; Park J.W.

W. Knoll, Max-Planck-Institute for Polymer Research, Ackermannweg 10, 5528 Mainz Germany

AUTHOR EMAIL: knoll@mpip-mainz.mpg.de

Journal of Colloid and Interface Science ( J. COLLOID INTERFACE SCI. ) ( United States) 15 APR 2007, 308/2 (325-331)

CODEN: JCISA ISSN: 0021-9797

PUBLISHER ITEM IDENTIFIER: S0021979707000306

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 34

...spectroscopy (or SPFS). Firstly, a silica film was coated onto a gold substrate using the sol - gel technique, followed by the covalent immobilization of a layer of second-generation dendrons with a...

MEDICAL DESCRIPTORS:

DNA microarray ; DNA strand; article; chemical procedures; film; kinetics; nanoanalysis; priority journal

6/3,K/16 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2007 Elsevier B.V. All rts. reserv.

13245545 EMBASE No: 2005305159

**A sol-gel immobilization of nano and micron size sorbents in poly(dimethylsiloxane) (PDMS) microchannels for microscale solid phase extraction (SPE)**

Karwa M.; Hahn D.; Mitra S.

S. Mitra, Department of Chemistry and Environmental Science, New Jersey Institute of Technology, 138 Warren Street, Newark, NJ 07032 United States

AUTHOR EMAIL: mitra@adm.njit.edu

Analytica Chimica Acta ( ANAL. CHIM. ACTA ) (Netherlands) 01 AUG 2005, 546/1 (22-29)

CODEN: ACACA ISSN: 0003-2670

PUBLISHER ITEM IDENTIFIER: S0003267005008408

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 44

...particles consisting of nano and micro silica, and micron size octadecylsilica (ODS) were immobilized using sol - gel chemistry onto poly(dimethylsiloxane) (PDMS) microfluidic channels to serve as mu-chip solid phase extraction (SPE) devices. Extraction, preconcentration and purification of biological and chemical analytes were carried out using these. Micro and nano scale silica- immobilized mu-SPE were used for the extraction/purification of DNA from recombinant Escherichia coli crude...

...be. This was a testimony to the purification capability of the mu-SPE device. ODS immobilized mu-SPE were used to study the extraction efficiency (EE) and enhancement factor (EF) for...

6/3,K/17 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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13083662 EMBASE No: 2005143994

**Protein array consisting of sol-gel bioactive platform for detection of E. coli O157:H7**

Lee W.; Park K.-S.; Kim Y.-W.; Lee W.H.; Choi J.-W.

J.-W. Choi, Dept. of Chem. and Biomol. Eng., Sogang University, 1 Shinsu-Dong, Mapo-Gu, Seoul 121-742 South Korea

AUTHOR EMAIL: jwchoi@ccs.sogang.ac.kr

Biosensors and Bioelectronics ( BIOSENS. BIOELECTRON. ) (United Kingdom) 15 MAY 2005, 20/11 (2292-2299)

CODEN: BBIOE ISSN: 0956-5663

DOCUMENT TYPE: Journal ; Conference Paper

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 26

Sol - gel -derived bioactive platform was fabricated for detection of pathogenic microbes, E. coli O157:H7. Design flexibility of sol - gel technique and ease of fabrication can fulfill to create the surfaces with structural and chemical...

...surface functionalization of bioactive platform. During TEOS hydrolysis, the modified thin film was prepared by sol - gel dip coating. Antibody against E. coli O157:H7 was immobilized with a configuration of protein array using piezo-type dispensing system. Surface morphology of the...

...using fluorescein isothiocyanate (FITC)-labeled antibody. The results showed that antibody was sequestered within the sol - gel -derived bio-gel due to physical adsorption. The measurement of E. coli O157:H7 was...

MEDICAL DESCRIPTORS:

\*protein microarray ; \*bacterium detection

?

Set	Items	Description
S1	5230	(SOL-GEL) OR (SOL (W) GEL)
S2	1333	S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S3	2	S2 (S) (DIAMETER AND MICRONS)
S4	2	RD (unique items)
S5	30	S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR - MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)
S6	17	RD (unique items)
?		

S S1 (S) (CRUSHED OR GROUND OR PRESSED OR PULVERIZED)

5230	S1
9040	CRUSHED
157119	GROUND
8086	PRESSED
2797	PULVERIZED

S7 38 S1 (S) (CRUSHED OR GROUND OR PRESSED OR PULVERIZED)

?

Set	Items	Description
S1	5230	(SOL-GEL) OR (SOL (W) GEL)
S2	1333	S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S3	2	S2 (S) (DIAMETER AND MICRONS)
S4	2	RD (unique items)
S5	30	S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR - MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)
S6	17	RD (unique items)
S7	38	S1 (S) (CRUSHED OR GROUND OR PRESSED OR PULVERIZED)
?		

S S7 AND (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED OR IMMOBILIZING)

38	S7
17983	ENTRAPPED
41254	ENCAPSULATED
7136	DOPED
109873	IMMOBILIZED
6746	IMMOBILIZING

S8 17 S7 AND (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED  
OR IMMOBILIZING)?

S S8 AND (MICRONS)

17 S8  
30282 MICRONS

S9 0 S8 AND (MICRONS)

?

Set Items Description

S1 5230 (SOL-GEL) OR (SOL (W) GEL)

S2 1333 S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED -  
OR IMMOBILIZING)

S3 2 S2 (S) (DIAMETER AND MICRONS)

S4 2 RD (unique items)

S5 30 S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR -  
MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)

S6 17 RD (unique items)

S7 38 S1 (S) (CRUSHED OR GROUND OR PRESSED OR PULVERIZED)

S8 17 S7 AND (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED -  
OR IMMOBILIZING)

S9 0 S8 AND (MICRONS)

?

RD S8

S10 12 RD S8 (unique items)

?

S S10 NOT PY>2002

12 S10  
7548944 PY>2002

S11 5 S10 NOT PY>2002

?

T S11/3,K/ALL

11/3,K/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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14038456 PMID: 12452708

Mimicking biological electron transport in sol-gel glass: photoinduced  
electron transfer from zinc cytochrome C to plastocyanin or cytochrome C  
mediated by mobile inorganic complexes.

Pletneva Ekaterina V; Crnogorac Milan M; Kostic Nenad M  
Department of Chemistry, Iowa State University, Ames, Iowa 50011, USA.  
Journal of the American Chemical Society (United States) Dec 4 2002,  
124 (48) p14342-54, ISSN 0002-7863--Print Journal Code: 7503056

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't;  
Research Support, U.S. Gov't, Non-P.H.S.

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... metalloproteins in sol-gel silica glass and letting mobile inorganic  
complexes shuttle electrons between the immobilized proteins. We present  
two examples of such rudimentary electron-transport chains. In both of them

the immobilized electron donor is the zinc-substituted cytochrome c, Zncyt; the immobilized electron acceptor is either cupriplastocyanin, pc(II), or ferricytochrome c, cyt(III); and the mobile...  
... for FeEDTA(-) and Ru(NH<sub>3</sub>)<sub>6</sub>(3+), respectively. This reaction is followed by the ground -state back electron transfer, from Q(-) to Zncyt(+). In the "monoprotein" glasses Zncyt/Q, the...

...partial escape of the photogenerated Q(-) into the glass pores, where it reacts with the immobilized pc(II) or cyt(III). Indeed, the visible absorption spectra show the photoinduced reduction of...

...and Ru(NH<sub>3</sub>)<sub>6</sub>(3+/2+), move through the glass pores, react with the encapsulated metalloproteins, and establish the interprotein electron transfer. Each interprotein reaction now occurs in two steps...

Descriptors: \*Biomimetic Materials--chemistry--CH; \*Cytochrome c Group --chemistry--CH; \*Cytochromes c; \*Enzymes, Immobilized --chemistry--CH; \*Plastocyanin--chemistry--CH; Circular Dichroism; Cytochrome c Group --metabolism--ME; Electron Transport; Enzymes, Immobilized --metabolism --ME; Gels--chemistry--CH; Glass--chemistry--CH; Kinetics; Oxidation-Reduction; Photochemistry; Plastocyanin--metabolism--ME...

Chemical Name: Cytochrome c Group; Enzymes, Immobilized ; Gels; Solutions; zinc cytochrome c; Cytochromes c; Plastocyanin

11/3,K/2 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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15380877 BIOSIS NO.: 200000099190

**Reagentless sensor integrating electrodes, photodetector, and immobilized co-substrate for electrochemiluminescence-based assays**

AUTHOR: Michel Philippe E (Reprint); van der Wal Peter D; Fiaccabruno Giovanni C; de Rooij Nico F; Koudelka-Hep Milena

AUTHOR ADDRESS: Institute of Microtechnology - SMLAB, University of Neuchatel, Jaquet-Droz 1, CH-2007, Neuchatel, Switzerland\*\*Switzerland

JOURNAL: *Electroanalysis* 11 (18): p1361-1367 Dec., 1999 1999

MEDIUM: print

ISSN: 1040-0397

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

**Reagentless sensor integrating electrodes, photodetector, and immobilized co-substrate for electrochemiluminescence-based assays**

ABSTRACT: A reagentless and regenerable electrochemiluminescence sensor has been developed by immobilizing the Rubpy32+ complex at the surface of a miniaturized sensor combining the electrode transducer and...

...two-step procedure. The complex was first incorporated in a sol-gel matrix which was ground to a powder. The microparticles thus obtained were then entrapped in a polyhydroxyethyl methacrylate membrane. The sensor was characterized by performing codeine assays with standard...

DESCRIPTORS:

...METHODS & EQUIPMENT: reagentless sensor integrating immobilized co-substrate...

11/3,K/3 (Item 1 from file: 73)  
DIALOG(R)File 73:EMBASE  
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11112582 EMBASE No: 2001131416

Selective removal of cesium from model nuclear waste solutions using a solid membrane composed of an unsymmetrical calix[4]arenebiscrown-6 bonded to an immobilized polysiloxane backbone

Duhart A.; Dozol J.F.; Rouquette H.; Deratani A.

J.F. Dozol, C.E.A. Cadarache, D.C.C./D.E.S.D./S.E.P., 13108 Saint Paul

Lez Durance Cedex France

AUTHOR EMAIL: dozoljf@cea.fr

Journal of Membrane Science ( J. MEMBR. SCI. ) (Netherlands) 30 APR 2001, 185/2 (145-155)

CODEN: JMESD ISSN: 0376-7388

PUBLISHER ITEM IDENTIFIER: S0376738800006177

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 20

...using a solid membrane composed of an unsymmetrical calix[4]arenebiscrown-6 bonded to an immobilized polysiloxane backbone

...containing two different crown loops were synthesized for this specific purpose and grafted by a sol - gel process onto a polysiloxane backbone. Solid-liquid extraction was carried out with crushed powders and the results were compared to liquid-liquid extraction using a soluble analogous of...

11/3,K/4 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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10578570 EMBASE No: 2000043393

A glucose biosensor with enzyme-entrapped sol-gel and an oxygen-sensitive optode membrane

Wu X.; Choi M.M.F.; Xiao D.

M.M.F. Choi, Department of Chemistry, Hong Kong Baptist University,

Kowloon Tong, Hong Kong SAR Hong Kong

AUTHOR EMAIL: mfchoi@net1.hkbu.edu.hk

Analyst ( ANALYST ) (United Kingdom) 2000, 125/1 (157-162)

CODEN: ANALA ISSN: 0003-2654

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 20

A glucose biosensor with enzyme- entrapped sol-gel and an oxygen-sensitive optode membrane

...continuous determination of glucose in beverages based on the canalisation of glucose oxidase into a sol - gel is presented. The enzyme was entrapped within a glass matrix by the sol - gel method. The matrix was ground to a powder form and packed into a laboratory-made flow cell. This minireactor was...

...7-diphenyl-1,10-phenanthroline)ruthenium(II) didodecyl sulfate adsorbed on silica gel particles and entrapped in a silicone rubber film. The membrane was situated against the wall of the flow...

11/3,K/5 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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06803113 EMBASE No: 1997085598

**Kinetics of photoinduced electron-transfer reactions within sol-gel silica glass doped with zinc cytochrome c. Study of electrostatic effects in confined liquids**

Shen C.; Kostic N.M.

N.M. Kostic, Department of Chemistry, Iowa State University, Ames, IA 50011 United States

Journal of the American Chemical Society ( J. AM. CHEM. SOC. ) (United States) 1997, 119/6 (1304-1312)

CODEN: JACSA ISSN: 0002-7863

PUBLISHER ITEM IDENTIFIER: S0002786396018677

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 77

**Kinetics of photoinduced electron-transfer reactions within sol-gel silica glass doped with zinc cytochrome c. Study of electrostatic effects in confined liquids**

Silica hydrogel (glass) was doped with native (iron-containing) cytochrome c and with its zinc derivative. Ultraviolet-visible, circular dichroism...

...the lifetime of the triplet state of the zinc protein show that encapsulation in the sol - gel glass only slightly perturbs the polypeptide backbone and does not detectably perturb the heme group. Because thermal ( ground -state) redox reactions of the encapsulated native cytochrome c are very slow, we take advantage of the transparency of the silica...

...pore walls, which are negatively charged at pH 7.0, affects the kinetics in the doped glass. Exclusion of the (Fe(CN)<sub>6</sub>)<sup>4-</sup> - anions from the glass interior...

...hindrance by the glass matrix. In light of these findings, the assumption that porosity of sol - gel glasses ensures uniform penetration of relatively small molecules into the pores must be taken skeptically...?

Set	Items	Description
S1	5230	(SOL-GEL) OR (SOL (W) GEL)
S2	1333	S1 (S) (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S3	2	S2 (S) (DIAMETER AND MICRONS)
S4	2	RD (unique items)
S5	30	S2 AND (MICROFLUIDIC OR MICROANALYTICAL OR MICRODEVICE OR - MICROARRAY OR MICROCHANNEL OR MICROCOLUMN)
S6	17	RD (unique items)
S7	38	S1 (S) (CRUSHED OR GROUND OR PRESSED OR PULVERIZED)
S8	17	S7 AND (ENTRAPPED OR ENCAPSULATED OR DOPED OR IMMOBILIZED - OR IMMOBILIZING)
S9	0	S8 AND (MICRONS)
S10	12	RD S8 (unique items)
S11	5	S10 NOT PY>2002
		?

COST

27may07 13:23:24 User259876 Session D1009.2

\$2.56 0.753 DialUnits File155  
\$2.42 11 Type(s) in Format 3  
\$2.42 11 Types  
\$4.98 Estimated cost File155  
\$4.34 0.723 DialUnits File5  
\$16.10 7 Type(s) in Format 3  
\$16.10 7 Types  
\$20.44 Estimated cost File5  
\$7.75 0.651 DialUnits File73  
\$19.80 6 Type(s) in Format 3  
\$19.80 6 Types  
\$27.55 Estimated cost File73  
\$0.49 0.155 DialUnits File159  
\$0.49 Estimated cost File159  
OneSearch, 4 files, 2.283 DialUnits FileOS  
\$4.26 INTERNET  
\$57.72 Estimated cost this search  
\$58.73 Estimated total session cost 2.553 DialUnits

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